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# (12) UK Patent Application (19) GB (11) 2 159 061 A

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GB 1479760 US 4076236  
EP 0063249 US 3488051  
US 4109908

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A6M

## (64) Adjustable weight dumbbell

(57) The dumbbell comprises a grip rod 11, a bow member 2 and two sets of weights 31, 32 & 31', 32' which are held onto the rod by screws 4, 4' and threaded portions of the innermost weights 32, 32'. The rod 1 and bow 2 are wrapped in cushioning material 6, 7.

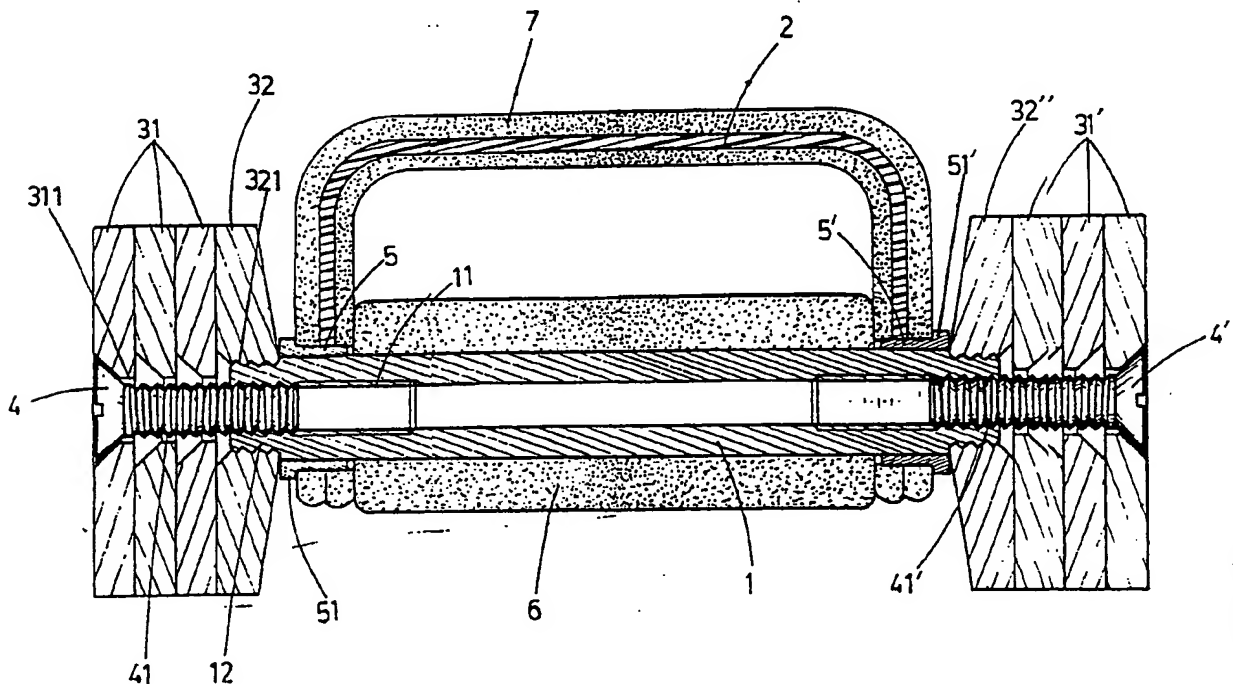


FIG. 4

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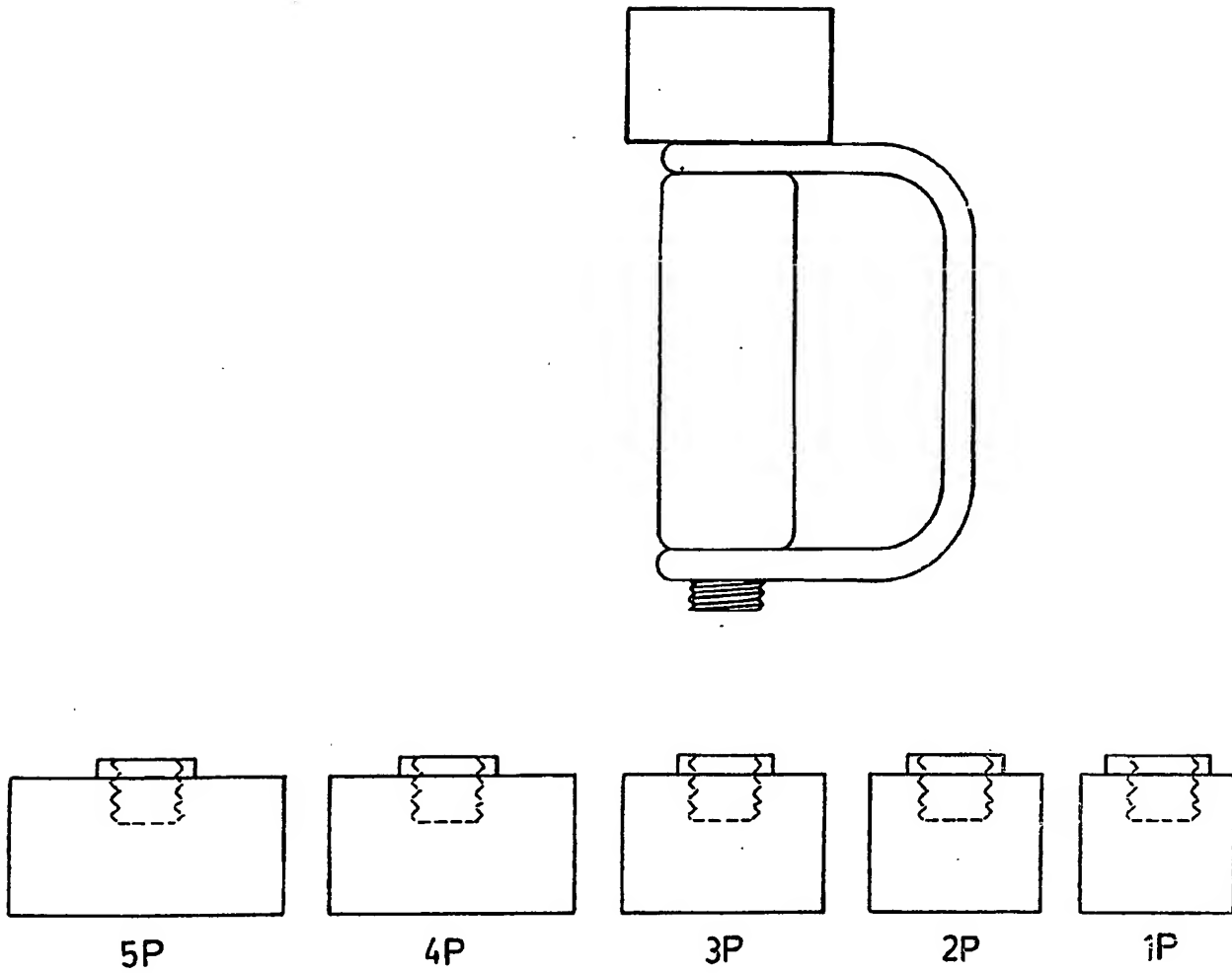


FIG.1

(PRIOR ART)

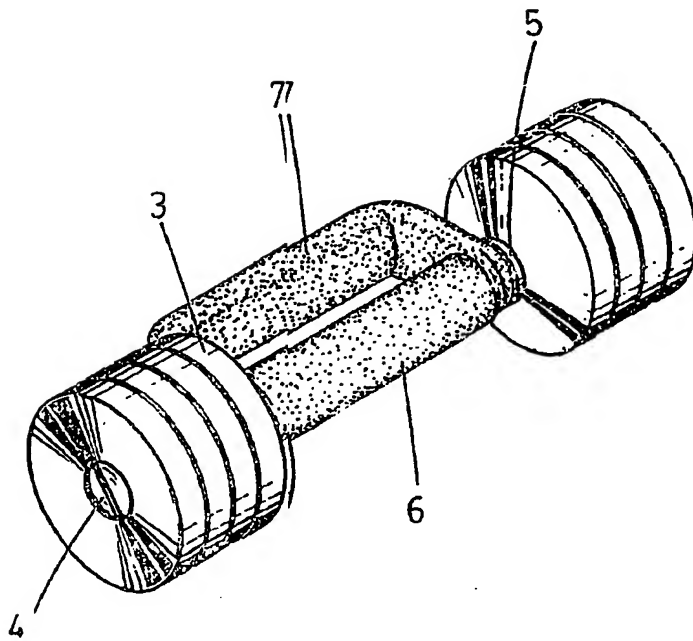
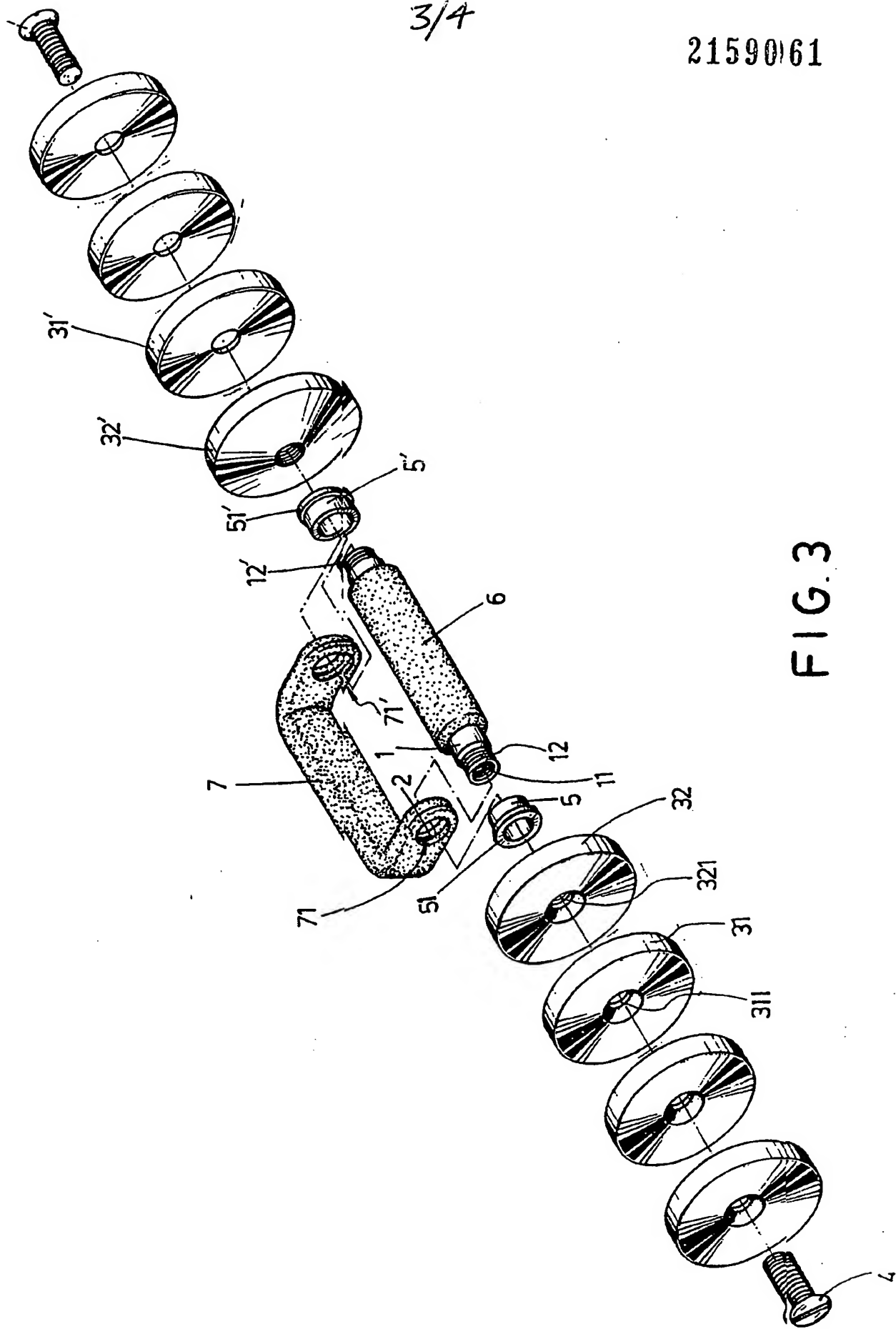
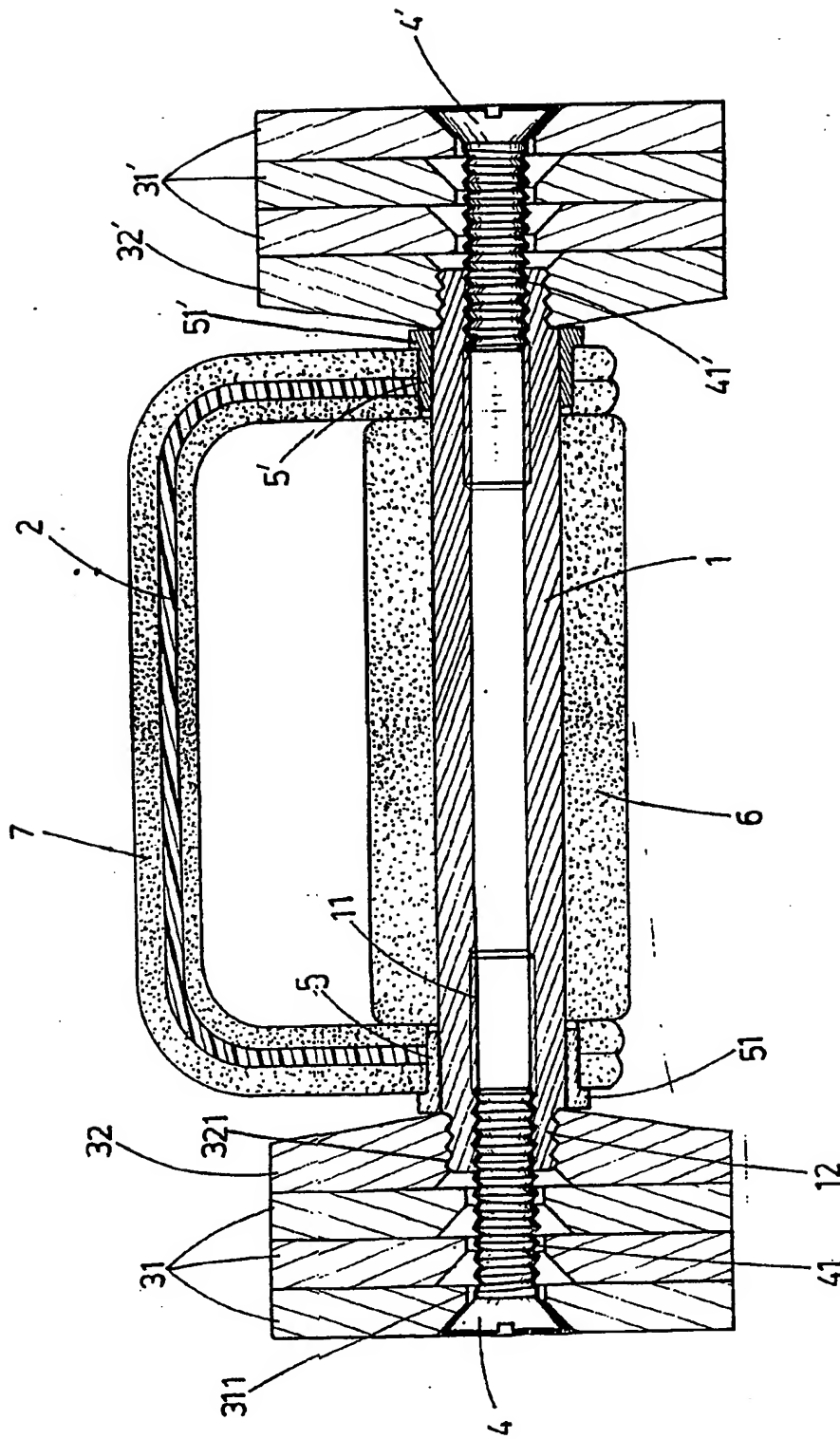


FIG. 2





## SPECIFICATION

### Adjustable Aerobic Exercise Weight Trainer

#### Background of the Invention

The dumb bells in the early stage have been integrally formed, their shapes and/or weights can never be changed, and their surfaces are rough and simple; if the users are not carefully enough, their hands would be hurt or injured.

Furthermore, in order to meet the needs of both the old and the young, the buyer must pay for the full set of the dumb bells in different sizes. It is non-economical and wasteful in point of manufacture as well as consumers because of their unchangeable weight.

Recently, there is a kind of dumb bell which the weight hammer part on its both ends is changeable. Please refer to the attached Fig. 1. Its design is to make the way of connection between the weight hammer part on its both ends and the grip screw mated, male threads being provided on both ends of the grip while female threads sunk provided in the inner part of the weight hammers, and a full set of a number of weight hammers are made and provided.

As shown in Figs., 1p, 2p, 3p, 4p and 5p represent individual weight hammers, each is in a weight of 1 to 5 pounds respectively.

The users may freely and optionally change them during use. However, a consumer should buy a full set of dumb bell weight hammers in different sizes. Hence, it is very inconvenient for the user to carry or store all together while carrying or storing them. Consequently, it is of necessity to design a weight exercise trainer applicable while using indoors or outdoors and adjustable as the user likes.

#### Summary of the Invention

Viewing the above-said needs, the present invention provides a design of a kind of weight exercise trainer, the total weight of which can be freely adjusted as the user likes, and the user may use a single physical exercise aid of it to conduct a series of progressive weight training, as the main object of the present invention.

Another object of the present invention is that the total weight of all of elements is not very heavy and they can be assembled into a single set without worrying about its unsuitableness for carrying outdoors due to its excessive weight or volume.

Other objects and features of the present invention can be further understood from the following detailed description.

#### Brief Description of the Drawings

Fig. 1 is the perspective view of the conventional dumbbell.

Fig. 2 is the perspective view of the present invention.

Fig. 3 is the exploded view of the present invention.

Fig. 4 is the cross sectional view of the present invention.

#### Detailed Description of the Present Invention

Please refer to Figs. 2 to 4. The major elements of the present invention include: the grip rod 1, bow

member 2, weight unit body 3, screw 4, bushing 5, grip cushion 6 and cushion for the bow member 7; wherein grip rod 1 is a round hollow pipe in a proper length, the inner threads 11 and outer threads 12 are oppositely provided on both ends of this round pipe, and the central part of the round pipe is wrapped and protected by the grip cushion 6.

The bow member 2 is made of plastic and formed as U-shape protective bow, a cushion 7 for the bow member is wrapped around the outside of this bow member, two round holes 71 and 71' provided in the two extension end parts of the cushion 7 are sleeved on the two ends of the grip rod respectively.

The weight unit body 3 is ring plate-shape, made of metal and in a specified weight, which can be generally distinguished into two types; one is the unit body 31 with a round hole 311 provided at central part for accommodating the screw 4 by which weight unit body can be connected on grip rod; the other is the unit body 32 in which an inner threads 321 is provided on the side wall of the central round hole for coupling with outer threads 12 on both ends of the grip rod. Thus the unit body 32 can be further directly screwed on the grip rod.

The screw 4 is used to penetrate through and connect the piled up weight unit bodies 3 on both ends of the grip rod 1, the outer threads 41 of screw 4 can couple with the inner threads 11 on the grip rod 1.

Bushing 5 is tightly sleeved and installed on both ends of the grip rod 1; its outer flange 51 is used to press against the bow member 2 to prevent this from slipping off, when using the weight trainer of the present invention, the user can, according to the particular weight he wishes to take, freely adjust and pile up the proper number of weight unit bodies 31 and 32 and lock them on both ends of the grip rod 1 respectively (adjustable from 1 to 5 pounds); besides, bow member 2 and the inner threads 321 provided on the unit body 32 make this weight trainer avoid the occurrence of the slip-off events of the unit bodies (31, 32) during the conduct of physical exercises, thus adding safety in use. Summing all the above up, the present invention can improve the conventional weight trainers, and disclose a dumb-bell weight trainer device which is adjustable in weights, suitable for carrying outdoors to use, logical and well-considered, and thus practicable.

#### CLAIMS

1. An adjustable aerobic exercise weight trainer includes: a grip rod, bow member, weight unit body, screw, grip cushion, and cushion for the bow member; wherein, the grip rod is a round hollow pipe in a proper length, inner threads and outer threads are oppositely provided on both ends of this pipe, and said grip cushion wraps and protects the central portion of the grip rod; the bow member is formed as U-shape protective bow, the cushion for the bow member is wrapped around the overall extension of the bow member, two round holes provided in the two extension end parts of the cushion for the bow member are sleeved on the two ends of the grip rod respectively; the weight unit

body is ring-plate-shape, made of metal and in a specified weight, a round hole is provided on its central part to allow said screw penetrating through it, wherein the screw connects a number of piled up weight unit bodies on both ends of the grip rod, by the outer threads of this screw coupling with the inner threads on the grip rod; said bushing is tightly sleeved and installed on both ends of the grip rod, wherein its outer flange presses against the bow member.

2. An adjustable aerobic exercise weight trainer according to claim 1, wherein the side wall of said central round holes of two of the weight unit bodies are provided with the inner threads which can couple with the outer threads on both ends of said grip rod, and thus such weight unit bodies can be directly screwed up and installed on both ends of the grip rod respectively.

3. An adjustable aerobic exercise weight trainer as described herein with reference to the drawings.

Amendments to the claims have been filed, and have the following effect:

Claims 1 to 3 above have been deleted or textually amended.

New or textually amended claims have been filed as follows:—

1. An adjustable aerobic exercise weight trainer

comprising a grip rod in the form of a pipe or tube of a suitable length having an internal and an external screw-thread at each end; a grip cushion wrapping and protecting the central portion of the grip rod; a U-shaped protective bow member; a cushion for the bow member which is wrapped around the overall extension of the bow member, two round holes provided in extension end parts of the cushion for the bow member being sleeved on respective ends of the grip rod; at least one pair of disc-shaped weight units, each weight unit being provided with a round hole in its central part; a pair of screws each engageable with the internal thread at a respective end of the grip rod, the screws being adapted to be passed through the holes in the weight units whereby said weight units can be connected to the grip rod; and a pair of flanged bushings adapted to be fitted on respective ends of the grip rod, the flanges of the bushings being arranged to press against respective ends of the bow member.

2. An adjustable aerobic exercise weight trainer according to claim 1, wherein two further weight units are provided each having a screw-threaded central bore which is engageable with the external screw-thread on a respective end of the grip rod.

3. An adjustable aerobic exercise weight trainer substantially as described herein with reference to Figs. 2 to 4 of the drawings.